IN THE CLAIMS

Please amend the claims as follows:

1. (previously presented) A communications system, comprising:

a transmission unit comprising:

a noise source for generating a noise signal;

a signal generator connected to the noise source and generating a colored noise-like preamble from at least the noise signal;

a modulator connected to the signal generator for modulating the colored noise-like preamble;

a switching device having at least a first input, a second input and an output, the first input being connected to the modulator;

an ISM spread spectrum modulator connected to the second input of the switching device and providing an ISM transmission signal; and

a transmitter connected to the output of the switching device wherein when the switching device is in a first position the colored noise-like preamble is provided as a transmitter output signal and when the switching device is in a second position the ISM transmission signal is provided as the transmitter output signal wherein the colored noise-like preamble is transmitted by the transmitter before the ISM transmission signal;

a receiving unit comprising:

an antenna for receiving the transmitter output signal transmitted by the transmission unit, the antenna adjusting an antenna pattern for improving reception of the transmitter output signal by the transmission unit ;

a signal processor connected to the antenna, the antenna producing an antenna output signal including the antenna pattern and the transmitter output signal, the signal processor evaluating the antenna output signal and determining at least the presence of the colored noise-like preamble in the antenna output signal.

2. (previously presented) The communications system of Claim 1, wherein the signal processor comprises:

a downconverter connected to the antenna for downconverting the antenna output signal;

an ISM receiver connected to the downconverter for receiving the antenna output signal and receiving the ISM transmission signal when the ISM transmission signal is present in the antenna output signal;

a sampler connected to the downconverter for sampling the antenna output signal;

a one-bit quantizer connected to the sampler for quantizing the antenna output signal into one-bit segments; and

an arc-sine law processor connected to the one-bit quantizer and antenna for determining the presence of the colored noise-like preamble in the antenna output signal and the arc-sine law processor instructing the antenna to at least cause movement of the antenna pattern.

3. (previously presented) The communications system of Claim 2, wherein the receiving unit further comprises a capacitor connected between the downconverter and the sampler for removing any DC levels in the antenna output signal.

4. (previously presented) The communications system of Claim 1, wherein the noise source comprises a broadband noise source.

5. (previously presented) The communications system of Claim 1, wherein the transmitting unit further comprises an antenna connected to the transmitter wherein the transmitter drives the antenna with the output signal.

6. (previously presented) The communications system of Claim 1, wherein the antenna comprises a plurality of antennas , for receiving the transmitter output signal transmitted by the transmission unit and the receiving unit further comprising an ISM

receiver connected to the signal processor for receiving the antenna output signal and receiving the ISM transmission signal when the ISM transmission signal is present in the antenna output signal.

7. (previously presented) The communications system of Claim 6, wherein the antenna output signal comprises a sum beam and a difference beam, the signal processor receiving the sum beam and the difference beam and the signal processor comprising:

a first delay unit connected to the plurality of antennas and receiving the sum beam , the first delay unit delaying the sum beam;

a first complex conjugator connected to the first delay unit for conjugating the sum beam and providing a first conjugator output signal;

a first multiplier connected to the first complex conjugator and receiving the sum beam , the first multiplier multiplying the sum beam with the first conjugator output signal to produce a first multiplier output signal;

an first integrator connected to the first multiplier and integrating the first multiplier output signal and providing a first integrator output signal;

a monopulse producing module connected to the first integrator;

a second delay unit connected to the plurality of antennas and receiving the difference beam , the second delay unit delaying the difference beam;

a second complex conjugator connected to the second delay unit for conjugating the difference beam and providing a second conjugator output signal;

a second multiplier connected to the second complex conjugator and receiving the sum beam , the second multiplier multiplying the sum beam with the second complex conjugator output signal to produce a second multiplier output signal; and

a second integrator connected to the second multiplier and the monopulse producing module , the second integrator integrating the second multiplier output signal and providing a second integrator output signal wherein the monopulse producing module

calculates an angle of arrival from the first integrator output signal and the second integrator output signal.

8. (previously presented) A system for short range communications, comprising:

a transmitter configured to transmit a colored noise-like preamble;

a receiver for receiving the colored noise-like preamble and including an antenna with an antenna pattern, a direction of the antenna being controllable by the receiver ; and

a signal processor connected and responsive to the receiver for detecting and estimating the strength of the colored noise-like preamble.

9. (previously presented) The system of Claim 8, wherein the antenna pattern comprises a spatial null adapted to be oriented electronically.

10. (previously presented) The system of Claim 8, wherein the signal processor is adapted to implement an arc sine law.

11. (previously presented) The system of Claim 8, wherein the colored noise-like preamble is composed of interleaved sequences of samples of colored noise.

12. (previously presented) The system of Claim 8, wherein the transmitter comprises an ISM transmitter.

13. (previously presented) The system of Claim 8, wherein the receiver comprises an ISM receiver.

14. (previously presented) A system for short range communications, comprising:

a transmitter configured to transmit a colored noise-like preamble;

a receiver for receiving the colored noise-like preamble and including at least two antennas having at least two output signals, wherein each of the two output signals are independently provided; and

a signal processor connected to the receiver and combining the at least two antenna output signals.

15. (previously presented) The system of Claim 14, wherein the signal processor combines the at least two antenna output signals to mitigate an interference signal.

16. (previously presented) The system of Claim 14, wherein the signal processor combines the at least two antenna output signals to enhance reception of the colored noise-like preamble.

17. (previously presented) The system of Claim 14, wherein the transmitter comprises an ISM transmitter.

18. (previously presented) The system of Claim 14, wherein the receiver comprises an ISM receiver.

19. (previously presented) A system for short range communications, comprising:

a transmitter configured to transmit a colored noise-like preamble;

a receiver for receiving the colored noise-like preamble and including at least one antenna with an antenna pattern, a direction of the antenna being controllable by the receiver; and

a signal processor connected and responsive to the receiver for detecting and estimating the strength of the colored noise-like preamble, and for causing reorientation of the antenna pattern of the at least one antenna based upon the preamble strength.

20. (previously presented) The system of Claim 19, wherein the antenna pattern comprises a spatial null adapted to be oriented electronically based upon the preamble strength.